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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,631	03/29/2007	Shigemitsu Kikuchi	KUD-003	1444

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KANESAKA BERNER AND PARTNERS LLP
1700 DIAGONAL RD
SUITE 310
ALEXANDRIA, VA 22314-2848

EXAMINER

KOAGEL, JONATHAN BRYAN

ART UNIT	PAPER NUMBER
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3744

MAIL DATE	DELIVERY MODE
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04/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,631	Applicant(s) KIKUCHI ET AL.	
	Examiner JONATHAN KOAGEL	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :16 February 2005, 29 March 2007.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitamura et al. JP Application No. 56-18883.

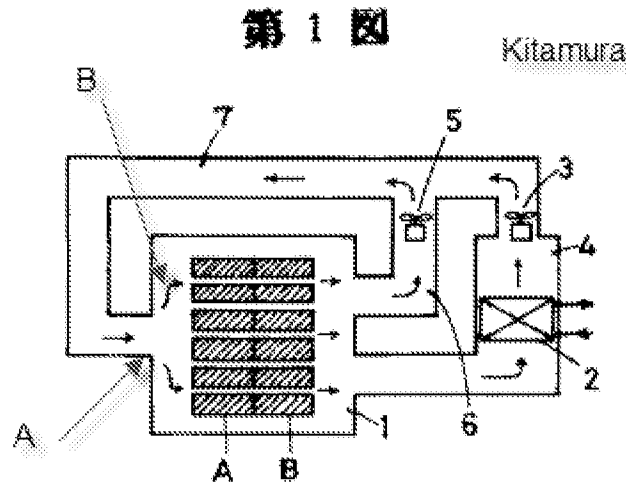
Regarding claim 1, Kitamura teaches in fig. 1, a cooling warehouse 1 comprising a first cooled air introducing pipe 4 introducing a first cooled air cooled by an air refrigerant type cooling apparatus 2, a second cooled air introducing pipe 6 taking in second cooled air in said cooling warehouse 1, an air introducing port A (See annotated Figure below) introducing a mixed air in which said first cooled air (from pipe 4) and said second cooled air (from pipe 6) are mixed into said cooling warehouse 1.

Regarding claim 2, Kitamura further teaches in fig. 1, wherein said air introducing port A is opened on a duct B (See annotated Figure below) set in said cooling warehouse 1.

Regarding claim 3, Kitamura further teaches in fig. 1, wherein said second cooled air introducing pipe 6 is set to an outside of said cooling warehouse 1 and one end of

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said second cooled air introducing pipe 6 is opened on a wall face of said cooling warehouse 1.



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

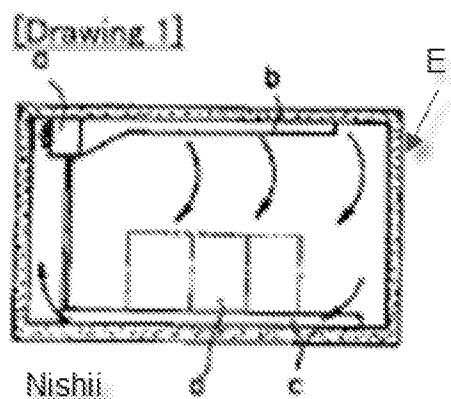
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura as applied to claim 1 above and further in view of Nishii et al. JP Application No. 06-32123.

Regarding claim 4, Kitamura teaches the invention as disclosed above but fails to explicitly teach where said second cooled air introducing pipe is set inside said cooling warehouse.

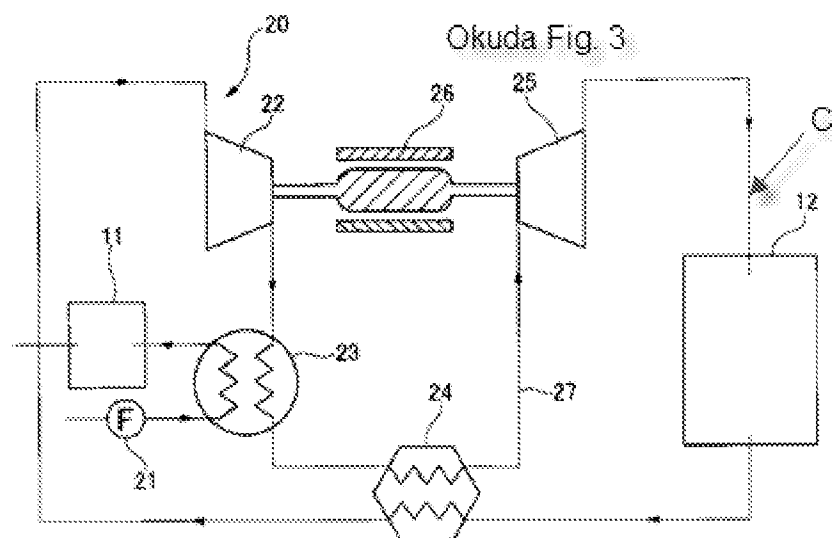
However, Nishii teaches in fig. 1, wherein said second cooled air introducing pipe c is set inside said cooling warehouse E (See annotated Figure below paragraphs 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kitamura with the teachings of Nishii to include a second cooled air introducing pipe inside the cooling warehouse in order to prevent heat transfer from occurring between the second cooling pipe and an external environment. Heat transfer with an external environment will raise the temperature within the second cooled air introducing pipe and will force a higher load upon the air refrigerant cooling apparatus. Therefore by locating the second cooled air introducing pipe inside of the cooling warehouse, the cooling system will be more efficient and result in a lower operating cost.



Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda JP Publication No. JP 2003302116 and further in view of Kitamura.

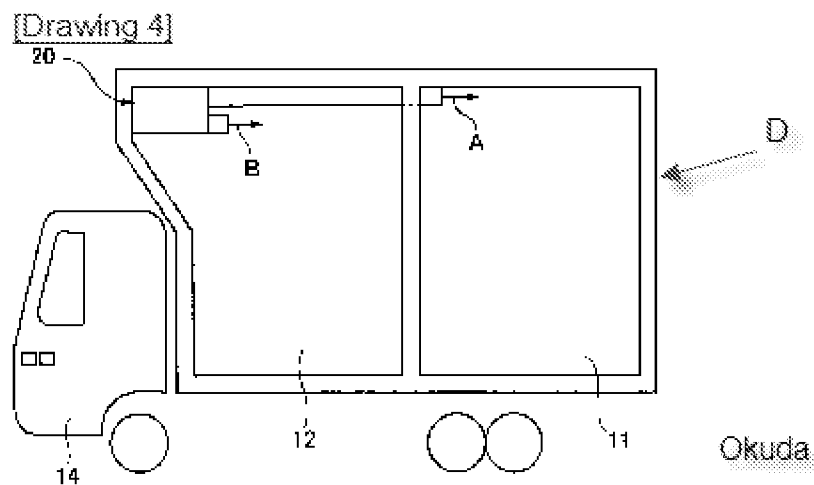
Regarding claim 5, Okuda teaches in fig. 3, an air refrigerant type cooling system comprising, an air refrigerant type cooling apparatus 20 and a cooling warehouse 12, wherein said air refrigerant type cooling apparatus includes a compressor 22 compressing a refrigerant air coming out of said cooling warehouse 12, a heat exchanger 23 cooling said refrigerant air coming out of said compressor 22, an expansion turbine 25 expanding said refrigerant air coming out of said heat exchanger 23 and supplying said refrigerant air to said cooling warehouse 12, and said cooling warehouse includes a first cooled air introducing pipe C (See annotated Figure below) introducing said refrigerant air coming out of said expansion turbine 25 (pg.3 paragraph 11-pg. 4 paragraph 14). Okuda fails to explicitly teach a second cooled air introducing pipe or an air introducing port.



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However, Kitamura teaches in fig. 1, a second cooled air introducing pipe 6 taking in second cooled air in said cooling warehouse 1, and an air introducing port A introducing mixed air in which said refrigerant air introduced by said first cooled air introducing pipe 4 and said cooled air (from pipe 6) are mixed into said cooling warehouse 1.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Okuda with the teachings of Kitamura to include a second cooled air introducing pipe and an air introducing port in order to precisely control the temperature within the warehouse by mixing a cold air from an expansion turbine with a cool air from within the warehouse. The mixing of the two airflows will limit the temperature gradient within the warehouse and thereby eliminating warm spots within the warehouse which could cause damage to the objects that require cooling.



Regarding claim 6, Okuda and Kitamura teach all the limitations that can be seen in claim 5 above. Okuda further teaches in fig. 4, a carriage D (See annotated Figure above) mounting said air refrigerant type cooling apparatus 20 and said cooling warehouse 12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN KOAGEL whose telephone number is (571)270-7396. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on (571)272-6681 or Cheryl Tyler (571)272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./
Examiner, Art Unit 3744
31 March 2009

/Cheryl J. Tyler/
Supervisory Patent Examiner, Art
Unit 3744